

What Is Claimed Is:

1. An active-matrix liquid crystal display comprising:

a first substrate including a pixel electrode provided for each pixel, and a driving element provided for  
5 each of said pixel electrodes;

a second substrate disposed opposite to said first substrate and including an opposite electrode; and

a liquid crystal layer sandwiched between said first substrate and said second substrate,

10 wherein said pixel electrode has a recess in groove shape formed therein.

2. An active-matrix liquid crystal display according to claim 1, wherein said pixel electrode has a generally rectangular shape, and said recess is provided such that it extends from one of a pair of opposite sides  
5 of said pixel electrode to the other to divide said pixel electrode into two parts.

3. An active-matrix liquid crystal display according to claim 1, wherein, when a voltage is applied between said pixel electrode and said opposite electrode, liquid crystal molecules in said liquid crystal layer are  
5 laid toward a longitudinal direction of said recess in

accordance with the magnitude of said voltage.

4. An active-matrix liquid crystal display according to claim 2, wherein, when a voltage is applied between said pixel electrode and said opposite electrode, liquid crystal molecules in said liquid crystal layer are  
5 laid toward a longitudinal direction of said recess in accordance with magnitude of said voltage.

5. An active-matrix liquid crystal display according to claim 1, wherein said pixel electrode is continuously formed across said recess.

6. An active-matrix liquid crystal display according to claim 2, wherein said pixel electrode is continuously formed across said recess.

7. An active matrix liquid crystal display according to claim 1, wherein a conductive layer of said pixel electrode is removed in said recess.

8. An active-matrix liquid crystal display according to claim 2, wherein a conductive layer of said pixel electrode is removed in said recess.

9. An active-matrix liquid crystal display

according to claim 2, wherein said recess is formed linearly with a constant width.

10. An active-matrix liquid crystal display according to claim 2, wherein said recess is formed in said pixel electrode in tapered shape such that it has a smaller width at one of a pair of opposite sides of said pixel  
5 electrode and has a larger width at the other.

11. An active-matrix liquid crystal display according to claim 2, wherein said recess is formed linearly with a constant width except that it has a smaller width in its central portion in a longitudinal direction.

12. An active-matrix liquid crystal display according to claim 2, wherein said recess is formed such that its width is smaller in its central portion in a longitudinal direction of said recess and becomes gradually  
5 larger toward each of a pair of opposite sides of said pixel electrode.

13. An active-matrix liquid crystal display according to claim 2, further comprising a guide in bank shape formed on said first substrate along a side of said pixel electrode in parallel with a longitudinal direction  
5 of said recess.

14. An active-matrix liquid crystal display according to claim 2, wherein said recess has a generally rectangular cross section.

15. An active-matrix liquid crystal display according to claim 2, wherein said recess has a generally reversed trapezoidal cross section, and an angle formed between a surface of said pixel electrode other than its  
5 portion corresponding to said recess and a side surface of said recess is equal to or larger than 60 degrees and less than 90 degrees.

16. An active-matrix liquid crystal display according to claim 1, further comprising:

a polarizer; and

at least one of an optically negative compensating  
5 film and an optically positive compensating film provided between said first substrate or said second substrate and said polarizer, whereby refractive index anisotropy in a layer including said liquid crystal layer and said compensating film is made isotropic.

17. An active-matrix liquid crystal display according to claim 2, further comprising:

a polarizer; and

at least one of an optically negative compensating

5 film and an optically positive compensating film provided between said first substrate or said second substrate and said polarizer, whereby refractive index anisotropy in a layer including said liquid crystal layer and said compensating film is made isotropic.

18. An active-matrix liquid crystal display according to claim 1, wherein said liquid crystal layer comprises a liquid crystal material with negative dielectric constant anisotropy, and liquid crystal molecules in said liquid crystal layer are aligned perpendicularly to each of said substrates when no voltage is applied between said pixel electrode and said opposite electrode.

19. An active-matrix liquid crystal display according to claim 2, wherein said liquid crystal layer comprises a liquid crystal material with negative dielectric constant anisotropy, and liquid crystal molecules in said liquid crystal layer are aligned perpendicularly to each of said substrates when no voltage is applied between said pixel electrode and said opposite electrode.

20. An active-matrix liquid crystal display according to claim 18, further comprising quarter-wave

plates provided on both sides of said liquid crystal layer,  
respectively, said quarter-wave plates having optical axis  
5 orthogonal to each other.

21. An active-matrix liquid crystal display  
according to claim 19, further comprising quarter-wave  
plates provided on both sides of said liquid crystal layer,  
respectively, said quarter-wave plates having optical axis  
5 orthogonal to each other.